

L 23481-65

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ACCESSION NR: AR5000742

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Card

2/2

YAKUNIN, M.I.

120-4-3/35

AUTHORS: Bugorkov, S.S., Malkin, L.Z., Petrzhak, K.A., Yakovlev, V.A.
and Yakunin, M.I.

TITLE: Ionisation Chambers for Alpha Particle Counting
(Ionizatsionnye kamery dlya scheta al'fa-chastits)

PERIODICAL: Priory i Tekhnika Eksperimenta, 1957, No.4,
pp. 16 - 19 (USSR)

ABSTRACT: The construction and properties of 5 ionisation chambers
for alpha particle counting are described.

No.1: A universal camera for alpha particles emitted within
a solid angle of 2π (Fig.1). This camera is used for
measurements on alpha-active materials deposited on one or
both sides of a thin plate. It can also be used to estimate
the degree of alpha-activation of the inner surfaces of
hemispherical platinum cups after various chemical procedures.

No.2: A camera for measurements in a solid angle which is
less than, or equal to, 2π (Fig.4).

No.3: A camera for measuring alpha activities of liquids
(Fig.5).

No.4: A camera with a solid angle $(0.01 - 0.001) \times 2\pi$ (Fig.6).

No.5: An argon filled camera (Fig.7). This is used to
measure intensities of the order of 2×10^7 counts/min and also

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120-4-3/35

Ionisation Chambers for Alpha Particle Counting.

- . in the measurement of alpha activity on a high beta background.
Pressure of the argon is about 1 atm.
The mechanical design of the 5 chambers are shown in the figures quoted above.
There are 7 figures and 3 references, 1 of which is Slavic

ASSOCIATION: Khlopin Radiation Institute Ac.Sc. USSR:
(Radiyevyy institut im. V.G. Khlopina AN SSSR)

SUBMITTED: September 26, 1956.

AVAILABLE: Library of Congress

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YAKUNIN, M. I.

PLATE I BOOK EXPLOITATION 527/503

Alasheya rank SSER. Radiyevy Institut

Trudy, t. IX (Transactions of the Radium Institute, Academy of Sciences USSR, M.: G. Moscow, Izd-vo AN SSSR, 1960, 267 p. Errata slip inserted. 1,700 copies printed.

Ed.: N.A. Perfilov, Doctor of Physical and Mathematical Sciences; Ed. of Publishing House: G.M. Aron; Tech. Ed.: A.V. Selinova.

PREFACE: The volume is intended for physicists.

CONTENTS: The book represents volume 9 of the Transactions of the Radium Institute and contains the results of studies conducted at the Institute chiefly from 1955 to 1959. The number of articles dealing with the study of nuclear reactions occurring with particles of different energies ranging from several eV up to hundreds of MeV. Others treat different problems of the physics of neutrons. Results of studies of various neutron sources, neutron energy distribution in a moderator (water), and other problems connected with the theory of neutron interaction with matter are presented. The majority of the articles are concerned with problems of method. The authors provide a complete description of the construction of equipment and of the results of tests performed under laboratory conditions. No personalities are mentioned. References accompany individual articles.

Ed.: N.A. Perfilov, and G.M. Aron. Moscow. Valt Effect in Ionization Chamber

192
Valt Effect in Ionization Chamber. Study of the Effect of Alpha Particle Reflection on Measuring in a Chamber with a Solid Angle - 2π

207
Berkovits, S.S., L.I. Malkin, K.A. Petrushek, V.A. Yakovlev, and M.I. Yakunin. Ionization Chamber for Alpha Particle Counting

214
Matvishenko, V.I. The Direct Method for Determining Low Radon Concentrations in the Air

229
Matvishenko, V.I. Distributions of Disintegrated Radon Products in Aerosols Filled With Powder and in Aerosols Without Filter

236
Mat, G.R., A.I. Buzanov, and G.I. Stepanov. The Photographic Effect of X-ray

238
Krasnikov, V.A. Accumulation of the Daughter Product in the Branch Decay of the Parent

240
Krasnikov, V.A., V.V. Mironovskiy, and N.V. Golovinskiy. Active Electronic Spectra in Air Equivalent Ionization Chambers

249
Krasnikov, V.A. Method of Measuring Half-life of Short-life Radioactive Elements

258
Krasnikov, V.A., V.I. Pechenkin, and N.V. Golovinskiy. Increasing the Sensitivity of a Specially Designed Ionization Chamber by the Dual Counter Method

268
Krasnikov, V.A. Effect of Radon on the Properties of a Particularly Fine-Grained Nuclear Emulsion

277
Krasnikov, V.A. Preparation of Solutions Containing Elements for Filling Nuclear Emulsion

287
Krasnikov, V.A. Study of Radioisotopes for New Instruments

YAKUNIN, M.I.

AUTHORS: Gorodyskiy, V.A., Romanov, Yu.P., Sorokina, A.Y. and Yakunin, M.I.
TITLE: Electro-capillary Method for the Preparation of Thin Layers of Radioactive Substances on Organic Films
PERIODICAL: Priroda i tekhnika eksperimenta, 1959, Nr 5, pp 128 - 130 (USSR)

ABSTRACT: The method is based on the deposition of the substance on pure and metallized organic films by spraying the solution from the end of a capillary tube under the action of an electrical field. The system is shown schematically in Figure 1, in which 1 is an aluminum ring carrying a colloidal film (1-2 mg/cm²) covered with a thin layer of silver (about 3 mg/cm²) and in contact with the ring. The silver layer is in electrical contact with the ring to which a negative potential is applied. The end of the capillary tube, whose diameter is 0.1 - 0.3 mm, is at about 1 - 2 cm above the film. At the top, the capillary is wider (1 mm diameter). A thin

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platinum wire 3, 0.05 mm in diameter, is let through almost to the end of the capillary tube. The experiment showed that the capillary must be very uniform and the end of the platinum wire carefully prepared. The wire is at a positive potential. In order to deposit a substance of a pure organic film, the modified installation shown in Figure 2 was used. In this figure, 1 is a glass container, 1' is a metallic electrode, 2 is a capillary, 2' is the wire, 3 is the solution to be deposited, 3' is a glass plate, 4 is a plaxidial ring and 5 is a holder. The ring with the colloidal film is on the surface of the conducting liquid in the vessel. During this apparatus, films may be obtained such that the thickness differs by 20% between the centre and the outer edge. Figure 3 shows α -particle tracks obtained in an emulsion placed in contact with some typical radioactive sources obtained in the above manner.

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Acknowledgments are made to K.A. Petrzhak. There are 3 figures and 1 English reference.

ASSOCIATION: Radiyevyy Institut AN SSSR (Radium Institute of the A.S.S.R., USSR)
SUBMITTED: August 6, 1958

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BUGORKOV, S.S.; MALKIN, L.Z.; PETRZHAK, K.A.; YAKOVLEV, V.A.; YAKUNIN, M.I.

Ionization chambers for α -particle counting. Trudy Radiy.inst.
AN SSSR 9:214-228 '59. (MIRA 14:6)
(Ionization chambers) (Alpha rays)

S/056/61/041/006/017/054
B102/B138

AUTHORS: Petrzhak, K. A., Yakunin, M. I.
TITLE: Investigation of the alpha activity of natural platinum
PERIODICAL: Zhurnal eksperimental'noy i teoreticheskoy fiziki, v. 41,
no. 6(12), 1961, 1780-1782

TEXT: The alpha activity of natural platinum is caused by the isotope Pt^{190} which, according to Ref. 4 (see below), has a half-life of $(6.9 \pm 0.5) \cdot 10^{11}$ years and an alpha energy of 3.11 ± 0.03 Mev. In order to verify these data the authors examined the alpha spectrum of natural platinum with a pulsed ionization chamber of high sensitivity, filled with $Ar+5\%CH_4$. The energy of the α -particles was calculated using the relation $E = 0.226V + \Delta$ (E - α energy in Mev, V - dimensionless pulse amplitude, Δ - sum of corrections in Mev). From the spectrum recorded the half-life of Pt^{190} was found to be $(4.7 \pm 1.7) \cdot 10^{11}$ years and the alpha energy 3.17 ± 0.02 Mev. Apart from the main peak in the spectrum which is from

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Investigation of the alpha activity ...

S/056/61/041/006/017/054
B102/B138

Pt¹⁹⁰, four other peaks were found: peak A with 2.50 Mev, which could be caused by α -particles from Sm¹⁴⁶, B with 2.75 Mev, C with \sim 2.95 Mev, and D with \sim 3.40 Mev. B is assumed to be caused by Pt¹⁹² with a halflife of 10¹⁴ years. There are 1 figure and 5 non-Soviet references. The three references to English-language publications read as follows: Ref. 3: T. P. Kohman. Phys. Rev., 73, 21, 1948; Ref. 4: R. D. Macfarlane, T. P. Kohman. Phys. Rev., 121, 1758, 1961; Ref. 5: D. C. Dunlavei, G. T. Seaborg. Phys. Rev., 92, 206, 1953.

✓

ASSOCIATION: Radiyevyy institut Akademii nauk SSSR (Radium Institute of the Academy of Sciences USSR)

SUBMITTED: July 17, 1961

Card 2/2

S/120/62/000/002/032/047
E194/E435

AUTHOR: Yakunin, M.I.

TITLE: Cathode sputtering of substances on large surfaces

PERIODICAL: Priory i tekhnika eksperimenta, no.2, 1962, 139-140

TEXT: Uniform thin films of materials are required for α -spectroscopy with high-power ionization chambers. Such films may be produced by vaporizing in vacuo, but the cathode sputtering method is much better, particularly if the arrangement of the equipment is cylindrical rather than flat. Uniform films of about 0.3 m² area were produced which were very uniform, of excellent micro-structure and acceptable transparency. The tube used was about 1 m long and 16 cm diameter with a central wire cathode which either consisted of, or was coated with, the material to be sputtered. The pressure in the chamber was maintained at 0.02 mm Hg by continuous evacuation combined with bleeding-in of argon. The voltage applied to the wire was 1.5 to 2.5 kV giving a current of 0.12 mA per cm length of run. With these optimum conditions the following amounts of material were sputtered from 1 cm length of cathode in 1 hour:

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Cathode sputtering ...

S/120/62/000/002/032/047
E194/E435

4 mg of copper, 8 mg of platinum, 0.3 mg of samarium.
There is 1 figure.

ASSOCIATION: Radiyevyy institut AN SSSR
(Radium Institute AS USSR)

SUBMITTED: July 17, 1961

Card 2/2

IVANOV, R.B.; KRIVOKHATSKIY, A.S.; KRIZHANSKIY, L.M.; NEDOVESOV, V.G.;
YAKUNIN, M.I.

Determining (T_{α}) Pu^{241} half-life period. Atoms. energ. 15 no.4:
322-323 0 '63. (MIRA 16:10)

NIKOLAYEV, D.S.; LAZAREV, K.F.; KORN, O.P.; YAKUNIN, M.I.; DROZHNIN, V.M.;
SAMARTSEVA, A.G.

Isotopic composition of uranium in the waters and sediments of the
Black and Azov Seas. Dokl. AN SSSR 165 no.1:187-89 N '65. (MIRA 18:10)

1. Submitted April 10, 1965.

KULAKOV, Yu.N.; YAKUNIN, M.K.

Using the blasting method for mining without supports in the
Prokopievskugol' Trust Mine no.5-6. Ugol' 35 no.9:11-14 S '60.
(MIRA 13:10)

1. Shakhta No.5-6 tresta Prokop'yevskugol' (Kuzbass) (for Kulakov).
2. Eksperimental'naya gruppa Kuzbasskogo tresta Prokop'yevskugol'
(for Yakunin).
(Kuznetsk Basin--Coal mines and mining) (Blasting)

YAKUNIN, M.K., gornyy inzh.

Experience in mining thick steeply dipping coal seams with the
blasting method without the presence of miners in the stopes.
Ugol' 37 no.6:17-19 Je '62. (MIRA 15:7)

1. Upravleniye vzryvnykh rabot Kombinata ugol'nykh predpriyatiy
Kuznetskogo kamennougol'nogo basseyna.
(Kuznetsk Basin—Coal mines and mining)
(Blasting)

YAKUNIN, M.K., gornyy inzh.

Selection of variations and calculation of basic parameters in
using blasting to work seams without men in the pit. Ugol'
38 no.6:21-25 Je '63. (MIRA 16:8)

1. VzryvFEU Kombinata ugol'nykh predpriyatiy Kuznetskogo
kamennougol'nogo basseyana.
(Blasting)

YAKUNIN, M.K., gornyy inzhener; SUMIN, I.P., gornyy inzhener

Upraising by the method of detonating charges in long holes.
Vzryv. delo no.51/8:317-324 '63. (MIRA 16:6)

1. Proizvodstvenno-eksperimental'noye upravleniye vzryvnykh
rabot kombinata Kuzbassugol'.

(Kuznetsk Basin--Mining engineering)
(Boring) (Blasting)

YAKUNIN, M.K., inzh.

Blasting method of mining coal in longwalls with supporting the working face. Vzyv. delo no.51/8:324-331 '63.

(MIRA 16:6)

1. Proisvodstvenno-eksperimental'noye upravleniye vzyvnykh rabot kombinata Kuzbassugol'.

(Kuznetsk Basin--Coal mines and mining)
(Blasting)

YAKUNIN, M.K., inzh.

Mechanized boring of long blast holes. Mekh. i avtom. proizv.
18 no.1:6-7 Ja '64. (MIRA 17:2)

YAKUNIN, M.K.; SUMIN, I.P.

Decreasing coal losses in manless long-hole mining. Ugol' 40 no.6:
24 Jo '65. (MIRA 18:7)

1. VzryvPEU kombinata Kuzbassugol'.

YAKUNIN, M.P.

GALUZO, I.G., prof.; YAKUNIN, M.P., mladshiy nauchnyy sotrudnik.

Natural foci of fowl spirochetosis. Veterinariia 34 no.10:45-47

0 '57.

(MLHA 10:11)

1. Akademiya nauk Kazakhskoy SSR.

(Spirochetosis) (Poultry--Diseases and pests)

YAKUNIN, M.P.

Discovering mange mites on the Asiatic ibex. Trudy Inst. zool.

AN Kazakh. SSR 9:241 '58.

(MIRA 11:7)

(Ketmen' range--Mites) (Parasites--Ibex)

YAKUNIN, M. P.

"Natural Foci of Spirochetosis in in Birds."

report presented at the Conference on the Natural Foci of Diseases and Problems of Parasitology. Alma Ata, Sep 1959.

YAKUNIN, M.P.

The tick *Argas persicus* in the Muyun-Kum sands. Trudy Inst. zool.
AN Kazakh. SSR 14:165-172 '60. (MIRA 13:12)
(Muyun-Kum--Ticks) (Parasites--Birds)

YAKUNIN, M.P.

Distribution of the tick Argas reflexus in Kazakhstan. Trudy
Inst.zool.AN Kazakh.SSR 12:221-225 '60. (MIRA 13:7)
(Kazakhstan--Ticks as carriers of disease)
(Parasites--Birds)

NOVINSKAYA, V.F.; PETESHEV, V.M.; YAKUNIN, M.P. _____

Considering problems in protozoology. Vest. AN Kazakh.
SSR 16 no.6:79-80 Je '60. (MIRA 13:7)
(Protozoology)

YAKUNIN, M. P.

Spirochetes of wild birds. Trudy Inst. zool. All Kazakh. SSR 16:
15-22 '62. (MIRA 15:10)

(Kazakhstan--Spirochetosis)
(Kazakhstan--Parasites--Birds)

YAKUNIN, N.K., kandidat tekhnicheskikh nauk.

Once more on longitudinal wood sawing with circular saws.
Der. prom. 5 no.3:11-15 Mr '56. (MIRA 9:7)

1. Tsentral'nyy nauchno-issledovatel'skiy institut mekhanicheskoy obrabotki drevesiny.
(Sawmills)

YAKUNIN, N.K., kandidat tekhnicheskikh nauk.

Circular saws for machines with hand feed. Der.prom. 5 no.7:
23-24 J1 '56. (MLRA 9:9)

1. TSentral'nyy nauchno-issledovatel'skiy institut mekhanicheskoy
obrabotki drevesiny.
(Saws)

YAKUNIN, N.K., kand.tekhn.nauk

What are the results of high-speed sawing with decreased consumption of power? Der.prom. 7 no.9:11-13 S '58. (MIRA 11:11)

1. Tsentral'nyy nauchno-issledovatel'skiy institut mekhanicheskoy obrabotki drevesiny.

(Sawmills)

YAKUNIN, N.K., kand.tekhn.nauk; BEKKER, I.G., inzh.; SOROKIN, I.A., inzh.

Sawmills with multiple circular saws for small timber. Der.prom.
8 no.4:16-17 Ap '59. (MIRA 12:6)

1. Tsentral'nyy nauchno-issledovatel'skiy institut mekhanicheskoy
obrabotki drevesiny (for Yakunin). 2. Giprolasmash (for Sorokin).
(Sawmills)

YAKUNIN, Nikolay Konstantinovich, kand.tokhn.nauk; KHUDYAKOV, V.A.,
red.; PLESHANOVA, M.I., red.izd-va; KUZNETSOVA, A.I., tekhn.red.

[Sawing small timber on multiple-saw circular sawing machines]
Raspilovka tonkomernogo lesa na mnogopil'nykh kruglopil'nykh
stankakh. Moskva, Goslesbumizdat, 1960. 82 p. (MIRA 13:9)
(Circular saws)

YAKUNIN, Nikolay Konstantinovich, kand. tekhn. nauk; OBRAZTSOV, S.A.,
red.; PROTANSKAYA, I.V., red. izd-va; PARAKHINA, N.L., tekhn.
red.

[Circular saws and their use] Kruglye pily i ikh ekspluatatsiia.
Moskva, Goslesbumizdat, 1960. 151 p. (MIRA 15:3)
(Circular saws)

YAKUNIN, N.K., kand.tekhn.nauk

Systems for lengthwise sawing of hardwood logs with circular
saws. Der.prom. 9 no.3:9-11 Mr '60.

(MIRA 13:6)

1. Tsentral'nyy nauchno-issledovatel'skiy institut
mekhanicheskoy obrabotki dereva.
(Lumber)

YAKUNIN, N.K., kand.tekhn.nauk

Systems for ripping hardwoods with circular saws. Der.prom. 9
no.4:8-10 Ap '60. (MIRA 13:9)

1. TSentral'nyy nauchno-issledovatel'skiy institut mekhanicheskoy
obrabotki dereva.

(Circular saws)

(Hardwoods)

YAKUNIN, N.K., kand.tekhn.nauk

"Sawing of wood with smooth-finish circular saws" by M.I.Peklo.
Reviewed by N.K. Yakunin. Der. prom. 10 no.8:27-29 Ag '61.
(MIRA 14:8)

(Circular saws)
(Peklo, M.I.)

YAKUNIN, N.K., kand.tekhn.nauk .

Work of the Scientific Research Institute of Woodworking Machinery during the period between the 21st and 22d Congress of the CPSU. Der.prom. 10 no.10:3-5 0 '61. (MIRA 14:9)

1. Nauchno-issledovatel'skiy institut derevo^{wood}obrabatyvayushchego mashinostroyeniya.

(Woodworking machinery)

GAFANOVICH, V.S.; YAKUNIN, N.Ya.

Technological comparison analysis of the performance of circular multiple-unit sawmills in case of a constant feed rate and its automatic control. Der.prom. 11 no.11:3-7 N '62. (MIRA 15:12)

1. Moskovskiy lesotekhnicheskii institut (for Gafanovich). 2. Nauchno-issledovatel'skiy institut derevoobrabatывayushchego mashinostroyeniya (for Yakunin).

(Circular saws—Testing)

VOLKOV, M.I., prof.; IVANOV, F.M. kand.tekhn.nauk; KLIMASHEV, F.S., inzh.;
KOROLEV, I.V., inzh.; KURDENKOV, B.I., inzh.; MYSHKOVSKAYA, S.A.,
kand.tekhn.nauk; NEKRASOV, V.K., kand.tekhn.nauk; SPERANTOV, N.A.,
kand.tekhn.nauk; YAKUNIN, O.A., inzh.; MOTYLEV, Yu.L., red.;
LAKHMAN, F.Ye., tekhn.red.

[Metallurgical slags in road construction] Metallurgicheskie
shlaki v dorozhnom stroitel'stve. Moskva, Nauchno-tekhn.izd-vo
M-va avtomobil'nogo transp. i shosseinykh dorog RSFSR, 1959.
182 p. (MIRA 12:4)

(Road materials)

(Slag)

YAKUNIN, O. A.: Master Tech Sci (diss) -- "Slabs, curbing, and piping for road construction made of blast-furnace slag". Moscow, 1958. 19 pp (Moscow Automobile and Road Inst), 150 copies (KL, No 13, 1959, 106)

YAKUNIN, O.A.; POLYAKOVA, A.I.

Testing the strength of gravel in cylindrical containers. Avt. dor.
24 no.2:20-22 F '61.

(MIRA 14:3)

(Gravel—Testing)

YAKUNIN, P., gvardii mayor

Teaching officers to drive automobiles. Voenn. vest. 39 no. 1:54-
58 Ja '60. (MIRA 14:2)

(Russia--Army--Officers) (Automobile drivers)

YAKUNIN, P.F.

Activities of N.I.Lobachevskii in the field of public education.
Ist.-mat.issl.no.9:129-144 '56. (MIRA 9:9)
(Lobachevskii, Nikolai Ivanovich, 1792-1856)(Education--History)

YAKOVLEV, P. M.

"Casting Steel Parts in Steel Molds"

Peredovaya Tekhnologiya Liteynogo Proizvodstva. Moskva-Sverdlovsk, No 3,
1953, 138-144.

Describes an experiment at the 'Krasnoye Sormovo' mill on casting steel parts weighing from 10 to 7,000 kg. Up to 300 castings of medium and large dimensions can be made from a single mold. Electric welding seals fissures that are formed in the molds. A saving in metal consumption and labor was achieved. (RZhKhim, No 3, 1955)

SO: Sum No 845, 7 Mar 56

YAKUNIN, P.M., inzhener.

Variable cross-section slag pocket. Lit.proizv. no.6:28 Je '56.
(MLBA 9:8)

(Foundry machinery and supplies)

SOV/137-57-11-21464

Translation from: Referativnyy zhurnal, Metallurgiya, 1957, Nr 11, p 116 (USSR)

AUTHOR: Yakunin, P.M.

TITLE: Casting Heads With Vertical Feeders (Pribyli s pitatelyami
vertikal'nogo napravleniya)

PERIODICAL: V sb.: Novoye v liteyn. proizve. Nr 2, Gor'kiy, Knigoizdat,
1957, pp 204-206

ABSTRACT: Directional vertical sprues for delivery of liquid metal to
closed spheroidal casting heads are described. They have
significant advantages over sprues delivering the metal in the
horizontal plane.

E.Sh.

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AUTHOR: Yakunin, P.M., Engineer

SOV-128-58-7-12/20

TITLE: Feeder Bosses (Pitayushchiye bobyshki)

PERIODICAL: Liteynoye proizvodstvo, 1958, Nr 7, p 26 (USSR)

ABSTRACT: The described and illustrated feeder bosses, used on runner gates in the new foundry of the plant "Krasnoye Sormovo", have fully eliminated the usual porosity caused by feeders without feeding heads in spots where such a feeder is connected to the casting. There are 2 diagrams.

1. Metals--Casting 2. Castings--Porosity

Card 1/1

YAKUNIN, P.M.

Removable foundry gatings in making molds for steel castings. Lit.
proizv. no.7:45 JI '61. (MIRA 14:7)
(Foundries—Equipment and supplies)

VEL'TMAN, R.P.; ZHUKOVSKIY, L.I.; PONOMAREV, L.Yo.; VEMYAN, A.Zh.;
 BENENSON, M.P.; ZALMANENOK, V.S.; KRUPENKO, T.I.; BABICH, Z.Ye.;
 GUTMAN, L.B.; ALIMOV, T.U.; YAKUNIN, P.N.; KRYZHANOVSKAYA, N.L.;
 AKSEL'DORF, A.L.; MUSINA, S.A.; KLEYF, A.D.; LUTSEVICH, E.V.;
 LEVINSON, O.S.; TURBINA, N.S.

Brief reports. Sov. med. 28 no.10:144-148 0 '65.

(MIRA 18:11)

1. Kiyevskiy institut tuberkuleza i grudnoy khirurgii (for Vel'tman, Zhukovskiy).
2. 3-ya kafedra khirurgii TSentral'nogo instituta usovershenstvovaniya vrachey, Moskva (for Ponomarev, Vemyan, Benenson).
3. Kafedra propedevticheskoy terapii Grodnenskogo meditsinskogo instituta i 1-ya klinicheskaya bol'nitsa imeni Solov'yeva, Grodno (for Zalmanenok, Krupenko).
4. Ukrainskiy nauchno-issledovatel'skiy institut okhrany materinatva i detstva imeni Buyko, Kiyev (for Babich, Gutman).
5. Klinika gospital'noy khirurgii Andizhanskogo meditsinskogo instituta (for Alimov).
6. Kafedra voyenno-polevoy terapii Voyenno-meditsinskoy ordena Lenina akademii imeni Kirova, Leningrad (for Mitropol'skiy, Latysh, Murchakova).
7. Kafedra urologii I Moskovskogo ordena Lenina meditsinskogo instituta (for Aksel'dorf).
8. 4-ya infektsionnaya klinicheskaya bol'nitsa Ufy (for Musina).
9. Chernovitskaya detskaya oblastnaya klinicheskaya bol'nitsa (for Kleyf).
10. Klinika obshchey khirurgii lechebnogo fakul'teta I Moskovskogo meditsinskogo instituta imeni Sechenova i patologoanatomicheskoye otdeleniye klinicheskoy bol'nitsy No.23 imeni Medsantrud, Moskva (for Lutsevich, Levinson).

(Cont. next card)

VEL'TMAN, R.P.; (Continued) Card 2:

11. Gematologicheskaya klinika Tsentral'nogo ordena Lenina
instituta gematologii i perelivaniya krovi, Moskva (for Turbina).

YAKUNIN, P. N.

YAKUNIN, P.N. (Termez)

Types of temperature curves in Q fever. Klin.med. 35 [1.e.34] no.1
Supplement:38 Ja '57. (MIRA 11:2)
(Q FEVER)

YAKUNIN, P.N.

Peculiarities of the clinical aspects and treatment of enterocolitis
and bacterial dysentery accompanied by lamblasis. Zdrav.Tadsh.
6 no.4:41-44 J1-Ag '59. (MIRA 12:11)

1. Iz N-skogo voyennogo gosptalya.
(INTESTINES--DISEASES)
(DYSENTERY)
(GIARDIASIS)

YAKUNIN, P.N.

Case of obstructive jaundice caused by Ascaris. Zdrav. Tadzh. 7
no. 2:57-58 Mr-Apr '60. (MIRA 13:10)
(JAUNDICE) (ASCARIDS AND ASCARIASIS)

YAKUNIN, P.N.

Clinical aspects of combined forms of bacterial dysentery
and giardiasis in southern Uzbekistan. Mod. zhur. Uzb. no.4:
24-26 Ap '60. (MIRA 15:3)

(UZBEKISTAN--DYSENTERY)
(UZBEKISTAN--GIARDIASIS)

YAKUNIN, P.N.

Clinical aspects of Q fever (as revealed by observations in Termez).
Med. zhur. Uzb. no.3:17-21 Mr '61. (MIRA 14:5)
(TERMEZ—Q FEVER)

YAKUNIN, P.N.

Duration of the course of infectious hepatitis under hot climatic conditions (southern Uzbekistan). Med. zhur. Uzb. no.5:40-42 My '61.

(UZBEKISTAN—HEPATITIS, INFECTIOUS)

KRONGAUZ, A.N.; PARSHIN, I.M.; BROKSH, V.R.; GROMOV, Yu.D.; YAKUNIN, V.F.

Universal condenser dosimeter for roentgen and gamma irradiations.
Vest. rent. 1 rad. 37 no.5:60-63 S-O '62. (MIRA 17:12)

1. Iz dozimetricheskogo otdela (zaveduyushchiy - dotsent A.N. Krongauz) i eksperimental'nykh masterskikh (direktor I.M. Parshin) Gosudarstvennogo nauchno-issledovatel'skogo rentgeno-radiolocheskogo instituta (direktor - prof. I.G. Lagunova).

RUBTSOV, M.K.; YELIASHVILI, A.I., inzh.; PASHCHENKO, I.N., inzh.;
YAKUNIN, V.I., inzh.; MERKULOV, Ye.M., inzh., obshchiy red.;
GOLUBEVA, I.A., red.; USHKOVA, M., tekhn.red.

[Simplest methods for making bricks] Prosteishie sposoby
izgotovleniia kirpicha. Moskva, 1958. 69 p. (MIRA 12:8)

1. Russia (1923- U.S.S.R.) Ministerstvo sel'skogo khozyaystva.
Upravleniye kapital'nogo stroitel'stva.
(Brickmaking)

LAPINSKIY, L.G., inzh.; MERKULOV, Ye.Ye., inzh.; PASHCHENKO, I.N.,
inzh.; YAKUNIN, Y.I., inzh.; GOLUBEVA, I.A., red.; POLE-
SITSKAYA, S.M., tekhn. red.

[Structural cementing materials] Stroitel'nye rastvory.
Moskva, 1959. 22 p. (MIRA 14:5)

1. Russia (1923- U.S.S.R.) Ministerstvo sel'skogo kho-
zyaystva. Normativno-issledovatel'skaya stantsiya.
(Plaster) (Mortar)

11(0)

SOV/93-58-10-13/19

AUTHOR: Nikolayev, V.V., Sushchenko, Ye.G., Yufin, V.A., and Yakunin, V.V.

TITLE: Radioactive Densimeter for Gravity Control on Pipelines Simultaneously Carrying Various Batches of Petroleum Products (Radioaktivnyy plotnomer dlya izmereniya plotnosti nefteproduktov v truboprovodakh pri posledovatel'noy perekachke)

PERIODICAL: Neftyanoye khozyaystvo, 1958,³⁶ Nr 10, pp 58-62 (USSR)

ABSTRACT: Radioactive densimeters for measuring the gravity of the various petroleum products simultaneously carried by pipelines have already been designed in the United States [Ref 1] and in the Soviet Union. The GP-1 densimeter, designed by the VNIINP Institute and described in the literature (Ref 2], had a number of defects which were eliminated in the PZhR-2 densimeter (Fig. 1) designed by the NII Teplopribor. The PZhR-2 Model consists of a radioactive source mounted on a disc and rotated by a synchronous motor. The gamma rays from the source alternately pass through the test fluid and the compensating wedge and hit a scintillation counter. The electric impulses emerging in the counter are summed up on the integration cell from which a sinusoidal signal of unbalance is obtained. The signal of unbalance is amplified by an amplifier and with the aid of a phase-sensitive

Card 1/2

SOV/93-58-10-13/19

Radioactive Densimeter for Gravity Control (Cont.)

instrument rotates a reversible motor which shifts the compensating wedge until the streams of radioactive rays passing through the test fluid and the compensating wedge are balanced. The compensating wedge is shifted simultaneously with the core of the induction coil which masters the telemetric system of the secondary instrument. The distance the compensating wedge is moved from the neutral position is directly proportional to the variation in the density of the petroleum product. (Fig. 2) shows how a PZhR-2 densimeter is employed on a pipeline of 150 mm in diameter carrying three different petroleum products. In this case the data were recorded by an EPID-03 type secondary instrument, but when it is necessary to record the change in density with respect to time the EPID-03 unit must be replaced by a DSR instrument. A record of change in density with respect to time is shown by (Fig. 3) and the percentage of error is given in (Table 1). The authors conclude that the PZhR-2 densimeter operates within an accuracy of 0.5 percent (0.005 g/cu cm) and that the accuracy can be improved further by stabilizing the intensity of the electric feed. The PZhR-2 unit can be employed on pipelines of 100-500 mm in diameter. It will be produced serially in 1959. There are 3 figures, 1 table, and 2 references, 1 of which is Soviet and 1 English.

Card 2/2

VASIL'YEV, A.A., inzh.; YAKUNINA, V.V., inzh.

Give more attention to the machinery for the maintenance and
repair of roads and airports. Stroil. i dor. mash. 10 no.3:
25-28 Mr '65. (MIRA 18:5)

YAKUNIN, Ya.K.

YAKUNIN, Ya.K., kand.tekhn.nauk; KHASDAN, S.M., inzh.

Stability and vibration of circular saw disks during operation.
Der.prom. 6 no.8:11-14 Ag '57. (MIRA 10:11)

1. TSentral'nyy nauchno-issledovatel'skiy institut mekhanicheskoy
obrabotki dereva.

(Saws)

YAKUNIN, YA. K.,

YAKUNIN, Ya. K., ka nd. tekhn. nauk; KHASDAN, S. M., inzh.

Stability and vibration of circular saw disks during operation. Der.
prom. 6 no. 9:14-15 S '57. (MIRA 10:11)

(Saws--Vibration)

YAKUNIN, Yo.

Wooden vats for processing buttons. Mias.ind.SSSR 25 no.2:59 '54.
(MIRA 7:5)

1. Khar'kovskiy myasokombinat. (Meat industry--By-products)

YAKUNIN, Ye.

An electric heater instead of a furnace. Mias.ind. SSSR 26 no.1:58
'55. (MLRA 8:5)

1. Kharkovskiy myasokombinat.
(Meat industry--By-products)

YAKUNIN, Yu., podpolkovnik, kand.voyen.nauk

Forestall the deployment of the enemy and you will win the
battle. Voyn. vest. 40 no. 3:16-19 Mr '61. (MIRA 14:2)
(Tank warfare)

YAKUNIN, Yu.A.

YAKUNIN, Yu.A.

Clinical aspects of recurrent polyneuritis in children. Pediatrics no.3:59-61 My-Je '55. (MLRA 8:10)

1. Iz kliniki nervnykh bolezney (zav.prof. D.S.Futer)
Pediatricheskogo instituta Ministerstva zdravookhraneniya RSFSR
(dir. V.N.Karachevtseva) na baze 1-y Moskovskoy detskoy klinicheskoy bol'nitsy (glavnyy vrach--zasluzhennyy vrach RSFSR
E.V.Prokhorovich)

(POLYNEURITIS, in infant and child
recurrent, clin.aspects)

NAZAROVA-YAKIR, Nefir' Markovna; YAKUNIN, Yuriy Alekseyevich

[Principal problems in the clinical aspects, differential diagnosis,
and medical treatment of poliomyelitis] Osnovnye voprosy kliniki,
diferentsial'noi diagnostiki i lechenia poliomielifita. Moskva,
Medgiz, 1956. 24 p. (MLRA 9:10)
(POLIOMYELITIS)

YAKUNIN, Yu.A.

STEPANOV, F.N. (Saratov); KONYAKHINA, V.N. (Saratov); YAKUNIN, Yu.A.,
kandidat meditsinskikh nauk (Moskva)

Clinical aspects of nervous disturbances in poliomyelitis. Vop.
okh.mat. i det. 1 no.1:14-20 Ja-F '56. (MLRA 9:9)
(POLIOMYELITIS) (NERVOUS SYSTEM--DISEASES)

YAKUNIN, Yu.A., kandidat meditsinskikh nauk; IVANOV, N.R., kandidat
meditsinskikh nauk

Clinical aspects of an abortive course of poliomyelitis. Vop.okh.
mat. i det. 1 no.1:25-30 Ja-F '56. (MLRA 9:9)
(POLIOMYELITIS)

YAKUNIN, Yu. A.

USSR/Human and Animal Physiology - Nervous System.

V-12

Abs Jour : Ref Zhur - Biol., No 1, 1958, 4489

Author : Yu. A. Yakunin

Inst : Institute of the Higher Nervous Activity, Academy of Sciences. USSR

Title : Disturbances of the Higher Nervous Activity in Children Suffering from Tubercular Meningitis.

Orig Pub : Ser. patofiziol., 1956, 2, 299-314

Abstract : Disturbances of the higher nervous activity progressed gradually in 15 patients aged 5 to 7: conditioned motor connections either failed to develop or were unstable. In the process of recuperation the instability of conditioned reaction prevailed for a long period of time along with slow formation of differentiations and successive inhibition. Complications entailed deterioration

Card 1./2

USSR/Human and Animal Physiology - Nervous System.

V-12

Abs Jour : Ref Zhur - Biol., No 1, 1958, 4489

of neurodynamics. Restoration of the higher nervous activity frequently lagged behind the improvement of the general condition.

YAKUNIN Yu. A.
ZHUKOVA, Ye.K.; YAKUNIN, Yu.A.

Pathogenesis and pathomorphology of respiratory disorders in poliomyelitis.
Vop.okh.mat.i det. 3 no.2:11-17 Mr-Ap '58. (MIRA 11:3)

1. Iz kliniki nervnykh bolezney (zav.-prof. D.S.Futer) Gosudarstvennogo
pediatricheskogo instituta RSFSR (dir.-kandidat meditsinskikh nauk
V.N.Karachovtseva) i Detskoy klinicheskoy bol'nitsy No.1 (glavnyy
vrach-zasluzhennyy vrach RSFSR Ye.V.Prokhorovich)
(RESPIRATION) (POLIOMYELITIS)

YAKUNIN, Yu.A.

Disorders of higher nervous activity in children with poliomyelitis
[with summary in English]. *Pediatrics* 36 no.2:56-60 # '59.
(MIRA 12:4)

1. Iz Gosudarstvennogo nauchno-issledovatel'skogo pediatricheskogo
instituta Ministerstva zdravookhraneniya RSFSR (dir. V.N. Karachev-
tseva) i kliniki detskikh nervnykh infektsiy (zav. - prof. D.S.
Futer).

(POLIOMYELITIS, compl.
disord. of higher nerv. activity (Rus))
(CENTRAL NERVOUS SYSTEM, in various dis.
polio., disord. of higher nerv. activity (Rus))

SYSOYEVA, I.M.; YAKUNIN, Yu.A.

Recurrent acute poliomyelitis. Zhur.nerv.i psikh. 59 no.7:781-784
'59. (MIRA 12:11)

1. Klinika ostrykh neyroinfektsiy (zav. - prof. D.S. Futer) Nauchno-
issledovatel'skogo pediatricheskogo instituta (dir. - kand.med.nauk
A.P. Chernikova) Ministerstva zdavookhraneniya RSFSR na baze detskoy
klinicheskoy bol'nitsy No.1 (glavnyy vrach Ye.V. Prokhorovich), Moskva.
(POLIOMYELITIS, in inf. & child,
recur. (Rus))

YAKUNIN, Yuriy Alekseyevich; LAGUTINA, Ye.V., red.; BALDINA, N.F.,
tekhn.red.

[Poliomyelitis] Poliomielit. Moskva, Gos.izd-vo med.lit-ry,
1960. 11 p. (MIRA 13:11)
(POLIOMYELITIS)

YAKUNIN, Yu.A. (Moskva)

Therapy for poliomyelitis patients with respiratory disorders.
Klin.med. 38 no.9:54-59 8 '60. (MIRA 13:11)

1. Iz kliniki detskikh neyroinfektsiy (zav. - prof. D.S. Futer)
i Gosudarstvennogo nauchno-issledovatel'skogo instituta Minister-
stva zdavookhraneniya RSFSR (dir. - doktor med.nauk A.P. Chernikova)
na baze Detskoy klinicheskoy bol'nitsy No.1 (glavnyy vrach - zaslu-
zhennyy vrach RSFSR Ye.V. Prokhorovich).
(POLIOMYELITIS)

FUTER, D.S.; ZHUKOVA, Ye.K.; YAKUNIN, Yu.A.

Problem of tonsillectomy and poliomyelitis. *Pediatrics* 38
no.9:68-71 S '60. (MIRA 13:12)

1. Iz gosudarstvennogo pediatricheskogo instituta Ministerstva
zdravookhraneniya RSFSR (dir. - A.P. Chernikova) i detskoy
gorodskoy bol'nitsy No.1 (glavnyy vrach - zasluzhennyy vrach
RSFSR Ye.V. Prokhorovich).
(TONSILS—SURGERY) (POLIOMYELITIS)

ZHUKOVA, Ye.K.; YAKUNIN, Yu.A.

Pulmonary complications in acute poliomyelitis. *Pediatrics* no.10:
44-50 '61. (MIRA 14:9)

1. Iz kliniki nervnykh bolezney (zav. - prof. D.S. Futer) Instituta pediatrii Ministerstva zdravookhraneniya RSFSR (dir. - kand. med.nauk A.P. Chernikova) i prozektury detskoy gorodskoy klinicheskoy bol'nitsy No.1 (glavnyy vrach - zasluzhennyy vrach RSFSR Ye.V. Prokhorovich).
(POLIOMYELITIS) (LUNGS—DISEASES)

YAKUNIN, Yu.A.

Respiratory disorders in connection with nervous system lesions in children. Zhur.nevr.i psikh. 62 no.7:993-999 '62. (MIRA 15:9)

1. Klinika detskikh neyroinfektsiy (zav. - prof. D.S.Futer)
Nauchno-issledovatel'skogo pediatricheskogo instituta (dir. - kand.
med.nauk V.P.Spirina) Ministerstva zdravookhraneniya RSFSR, Moskva.
(RESPIRATION) (NERVOUS SYSTEM--DISEASES)

YAKUNIN, Yu.A.

Bronchopulmonary changes in poliomyelitis patients with respiratory disorders during the acute and chronic periods. Vop.okh.mat.i det. (MIRA 16:5)
8 no.3:55-60 Mr '63.

1. Iz kliniki detskikh neyroinfektsiy (zav. - prof. D.S. Futer)
Gosudarstvennogo nauchno-issledovatel'skogo pediatricheskogo
instituta (dir. - kand.med.nauk V.P. Spirina) Ministerstva zdra-
vookhraneniya RSFSR.
(POLIOMYELITIS) (RESPIRATORY ORGANS—DISEASES)

YAKUNIN, Yuriy Aleksandrovich; SYSOYEVA, Iraida Mikhaylovna;
POTAPOVA, I.N., red.; PRONINA, N.D., tekhn. red.

[Infantile paralysis - poliomyelitis] Detskii paralich -
poliomielit. Moskva, Medgiz, 1963. 20 p. (MIRA 16:5)
(POLIOMYELITIS)

L 3942-65 EWT(d)/EWT(1)/EWT(m)/EPF(n)-2/EWP(v)/EIP(k)/EWP(h)/EWF(1)

Distinguishing feature: In order to control the slave systems without

NOSYREV, V., nauchnyy sotrudnik; YAKUNINA, A.; ZYBIN, B., mladshiy nauchnyy sotrudnik

Poppy pests. Zashch. rast. ot vred. i bol. 10 no.8:54-55 '65.

(MIRA 18:11)

1. Vsesoyuznyy nauchno-issledovatel'skiy institut lekarstvennykh i aromaticeskikh rasteniy (for Nosyrev). 2. Przhoval'skaya zonal'naya opytnaya stantsiya Vsesoyuznogo nauchno-issledovatel'skogo instituta lekarstvennykh i aromaticeskikh rasteniy (for Zyubin).

YAKUNINA, A.V.; VALDAVINA, K.D., agronom

Codling moth in Tatarstan. Zashch. rast. ot vred. i bol. 8
no.2:50 F '63. (MIRA 16:7)

1. Zaveduyushchaya Chistopol'skim punktom signalizatsii i
prognozov, Chistopol' (for Yakunina). 2. Chistopol'skiy punkt
signalizatsii i prognozov, Chistopol' (for Valdavina).
(Tatar A.S.S.R.—Codling moth)

STEPANOVA, N.A.; YAKUNINA, G.A.

Determination of microgram quantities of molybdenum and tungsten
in mineral raw materials by means of toluene-3,4-dithiol. Zhur.
anal.khim. 17 no.7:858-864 O '62. (MIRA 15:12)

1. All-Union Scientific-Research Institute of Mineral Raw
Materials, Moscow.
(Molybdenum--Analysis)(Tungsten--Analysis)

LYSENKO, A.P.; YAKUNINA, G.I.; PLYUSHIN, V.G.; ZELENTSOVA, M.I.

Production of n-tert-butyl phenol by alkylation of phenol with
isobutylene in the presence of hydrogen fluoride. Khim. prom.
41 no. 12:887-891 D '65 (MIRA 19:1)

86499

53610

2209, 1373, 1153

S/079/60/030/011/004/026
B001/B066

AUTHORS: Yesafov, V. I. and Yakunina, G. I.

TITLE: Chemistry of Onium Compounds. III. Investigation of Thermal Decomposition of the Reaction Products of Tetrahydrofuran, α -Methyl Furan, Pyrrole, Thiophene With the Dietherate of Magnesium Iodide and With Magnesium Iodide

PERIODICAL: Zhurnal obshchey khimii, 1960, Vol. 30, No. 11, pp. 3572-3576

TEXT: V. I. Yesafov (Refs. 1,2) showed in his papers that the etherate $MgI_2 \cdot 2(C_2H_5)_2O$ is a very convenient agent for the relative estimation of the degree of aromaticity of the five-membered O-, N- and S-heterocyclic compounds. These heterocyclic compounds may be arranged in the following order on the basis of increasing difficulty in the release of the unshared electron pair of heteroatoms with formation of "onium compounds"; and for silvan, pyrrole, and thiophene with respect to the degree of stability increase of the electron sextet of heterocycles;

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Chemistry of Onium Compounds. III. Investigation of Thermal Decomposition of the Reaction Products of Tetrahydrofuran, α -Methyl Furan, Pyrrole, Thiophene With the Dietherate of Magnesium Iodide and With Magnesium Iodide

S/079/60/030/011/004/026
B001/B066



This order is further confirmed by the experimental data of thermal decomposition of the reaction products of the mentioned heterocyclic compounds with anhydrous magnesium iodide. Tetrahydrofuran forms with the latter a compound which decomposes on heating by cleaving the heterocycle (Ref. 5). Silvan and pyrrole give, only on heating with magnesium iodide, compounds which decompose at high temperature, also under cleavage of the heterocycles. Also on prolonged heating, thiophene does not react with magnesium iodide. It follows from this that furan and pyrrole, as well as their compounds, maintain the "benzoide-like" state of electrons in the heterocycles only at low temperatures, with increasing temperature, however, this state is disturbed, in which connection the unshared electron pairs of oxygen and nitrogen are set free, and stable onium compounds are formed with MgI :

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Chemistry of Onium Compounds, III. Investigation of Thermal Decomposition of the Reaction Products of Tetrahydrofuran, α -Methyl Furan, Pyrrole, Thiophene With the Dietherate of Magnesium Iodide and With Magnesium Iodide



which also explains the decomposition of O- and N-heterocycles on heating. It was thus shown that 1) tetrahydrofuran displaces the diethyl ether from $\text{MgI}_2 \cdot 2(\text{C}_2\text{H}_5)_2\text{O}$ to form $\text{MgI}_2 \cdot 2\text{C}_4\text{H}_7\text{O}$ which is decomposed under cleavage of a molecule of tetrahydrofuran, that 2) silvan and pyrrole displace one molecule of ether from $\text{MgI}_2 \cdot 2(\text{C}_2\text{H}_5)_2\text{O}$, and give compounds with MgI_2 which decompose under cleavage of the heterocycles, that 3) thiophene reacts neither with $\text{MgI}_2 \cdot 2(\text{C}_2\text{H}_5)_2\text{O}$ nor with MgI_2 . It is assumed that the participation of heteroatoms in the formation of heterocycles increases their capability of forming onium compounds. This assumption is supported by the fact that dioxane and tetrahydrofuran give with MgI_2 stabler compounds than simple aliphatic ethers. G. I. Kuznetsova, I. F. Bel'skiy,

Card 3/4

86499

Chemistry of Onium Compounds. III. Investigation of Thermal Decomposition of the Reaction
Products of Tetrahydrofuran, α -Methyl Furan, Pyrrole, Thiophene With the
Dietherate of Magnesium Iodide and With Magnesium Iodide

and S. Z. Tayts are thanked for making available the samples. There are
11 references: 5 Soviet, 4 US, 2 British, and 2 German,

ASSOCIATION: Ural'skiy gosudarstvennyy universitet (Ural State
University)

SUBMITTED: August 18, 1959

Card 4/4

L 08461-67 EWP(j)/EWT(m) LJP(c) RM

ACC NR: AP6030854 (A,N)

SOURCE CODE: UR/0191/66/000/009/0047/0049

AUTHOR: Malinin, L. N.; Yakunina, K. F.

ORG: none

TITLE: Degradation and stabilization of cellulose acetobutyrate

SOURCE: Plasticheskiye massy, no. 9, 1966, 47-49

TOPIC TAGS: polymer degradation, cellulose plastic, UV absorption, light aging, anti-oxidant additive, stabilizer

ABSTRACT: The kinetics of photodegradation and photostabilization of cellulose acetobutyrate (CAB) containing 40-43% and 26-27% butyric acid were studied on thoroughly dried films 100-110 μ thick obtained from 15% acetone solutions. The films containing various photostabilizers and antioxidants were exposed to UV light in an AIPST-2-4-2 apparatus at 50-60°C and a humidity of 50-60%. Viscometric measurements were made on 0.25% acetone solutions with an Ostwald viscometer. An extensive degradation of CAB was observed after 24 hr. The change in the relative viscosity of CAB was determined for each additive, and the change in the molecular weight was plotted against the duration of exposure in the AIPST-2-4-2 apparatus. Resorcinol monobenzoate and hydroquinone monobenzoate proved to be the best stabilizers. Orig. art. has: 4 figures, 1 table and 1 formula.

Card 1/2

UDC: 678.544.64:[678.019.36:535-31

L 08461-67

ACC NR: AP6030854

SUB CODE: 11/ SUBM DATE: none/ ORIG REF: 002/ OTH REF: 010

ms
Card 2/2

YAKLINTVA L-V

and Y. A. Izrael Radiofizika 1, 1958-70
 (1958) The results of parallel measurements of the total
 resistance of p-n transition and rectified current in Ge
 In diodes confirm previously made observations of 100-1000
50, 22000 It was shown that in the region of frequencies
 from ~ 1 ke to ~ 10 Me the rectified current had a direct
 dependence on the frequency was independent of the type
 nature of the p-n transition

YAKUNINA, K.V.

109-9-13/15

AUTHORS: Penin, N.A. and Yakunina, K.V.

TITLE: Dependence of the Capacitance and Resistance of Alloy Junction Germanium Diodes on the Frequency and the Positive Bias Current (Zavisimost' yemkosti i soprotivleniya splavnykh germanievykh diodov ot chastoty i toka polozhitel'nogo smeshcheniya)

PERIODICAL: Radiotekhnika i Elektronika, 1957, Vol.II, Nr 9, pp.1200 - 1210 (USSR)

ABSTRACT: It is assumed that the equivalent AC circuit of a p-n junction can be represented by a series resistance, r , followed by a resistance, $R(\omega)$ in parallel with a capacitance $C_D(\omega)$ and C_3 , where C_D is the so-called diffusion capacitance and C_3 is the capacitance of the barrier layer. R , C_D and C_3 are given by (Refs.1 and 2) :

$$R = \frac{\sqrt{2}}{\alpha(I + I_S)} \frac{1}{\sqrt{1 + \omega^2 \tau^2 + 1}} \quad (1)$$

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109-9-13/15

Dependence of the Capacitance and Resistance of Alloy Junction Germanium Diodes on the Frequency and the Positive Bias Current.

$$C_D = \frac{\alpha(I + I_S)}{\sqrt{2}} \frac{\tau}{\sqrt{1 + \omega^2 \tau^2 + 1}} \quad (2)$$

$$C_3 = C_{30} \left[1 - \frac{1}{\alpha \varphi_K} \ln \left(\frac{I}{I_S} + 1 \right) \right]^{-\frac{1}{2}} \quad (3)$$

where α is $\frac{q}{kT}$, I_S is the saturation current, I is the positive biasing current, τ is the lifetime of the holes and ω is the angular frequency. φ_K is expressed by Eq.(4) where p is the hole concentration in the p region and n_n is the electron concentration in the n region and n_i is the concentration of electrons or holes in germanium. From Eqs.(1) and (2) it is shown that :

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109-9-13/15

Dependence of the Capacitance and Resistance of Alloy Junction Germanium Diodes on the Frequency and the Positive Bias Current.

$$\sqrt{\frac{C_D}{R}} = \alpha(I + I_S) \sqrt{\frac{\tau}{2}}, \quad (9)$$

from which it is possible to determine the lifetime τ at a given I if the function $\sqrt{\frac{C_D}{R}}$ is known. The above

theoretical formulae were checked experimentally. The following measurements were made: (1) impedance of the diode as a function of frequency at $I = \text{const}$ (Fig.5), (2) relationship between the real and imaginary components of a p-n junction at $\omega = \text{const}$ (Fig.6), (3) total capacitance of the diode as a function of frequency for various biasing currents (see Figs.7 and 9), (4) resistance as a function of frequency for various biasing currents (see Figs.8 and 9), (5) resistance and capacitance as a function of I for various resistivities of the diode material (Figs.10 and 11), (6) function $\sqrt{\frac{C_D}{R}}$ as a function of I for various types of

Card 3/4

109-9-13/15

Dependence of the Capacitance and Resistance of Al₂O₃ Junction Germanium Diodes on the Frequency and the Positive Bias Current. diodes (Fig.12) and (7) the relationship between R and the total capacitance C for various I. It was found that the measured results are in very good agreement with the experimental values. There are 13 figures, 1 table and 4 references, 2 of which are Slavic.

SUBMITTED: February 20, 1957.

AVAILABLE: Library of Congress.

Card 4/4

PAVLC SKIY, L.L.; Prinsipali uchastiye: MATYUK, F.M.; GOGOLINA, L.I.;
SERGUNINA, V.A.; SIDORINA, N.I.; LIBERMAN, A.B.; ROMANOVA, L.V.;
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AUTHORS: Kosarev, A.A., Martynov, A.V., and Yakunina, L.I.
(Voronezh)

TITLE: A method of calculating complex roots of algebraic
equations by means of a simulator

PERIODICAL: Avtomatika i telemekhanika, v. 23, no. 2, 1962,
163 - 168

TEXT: A method is proposed for determining all complex roots without a shift in the level, distortion or readjustment of the circuit; the results thus obtained have adequate accuracy. The scaling of the variables, an important factor in simulating, is examined and certain recommendations are made. The method is developed on the basis of the equation $x^n + a_1x^{n-1} + \dots + a_n = 0$; all complex roots are found by means of a simulator of a general form. Boundaries defining the root distribution for the model equation and roots locating areas are discussed. Using the method proposed it is necessary that in evaluating complex root values the real quantities be
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